

**REMARKS**

Claims 1-14 are pending in this application. By this Amendment, claims 1, 5, 8, 9, 10, and 11 are amended, claims 2, 3, 6, and 7 are canceled and claims 12-14 are added. Support for the amendments to the claims may be found, for example, in the specification at page 8, line 14 through page 9, line 6, and page 44, lines 4-7. Support for the new claims may be found, for example, in the specification at pages 52 and 53. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

**I. Rejection under 35 U.S.C. §112, Second Paragraph**

The Office Action rejects claims 1-4, 6, and 7 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. By this Amendment, claims 2, 3, 6, and 7 are cancelled, rendering their rejection moot.

With respect to claim 1, the Office Action asserts that the recitation of "the other reactant" lacks antecedent basis. By this Amendment, claim 1 is amended to replace "the other reactant" with "an other reactant." Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**II. Rejection Under 35 U.S.C. §102/§103**

**A. Versteeg**

The Office Action rejects claims 1 and 2 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,451,260 to Versteeg et al. ("Versteeg"). By this Amendment, claim 2 is cancelled, rendering its rejection moot. Applicants respectfully traverse the rejection as to claim 1.

Without conceding the propriety of the rejections, independent claim 1 is amended to more clearly recite various novel features of the claimed invention, with particular attention to

the Examiner's comments. Specifically, independent claim 1 is amended to clarify that "processing the substrate by alternately repeating the above steps for a plurality of times...an injecting amount per one injecting operation of the liquid source to the vaporization section is fixed to be smaller than an amount of the liquid source required for one supply operation of the source gas to the substrate, and the liquid source is controlled to be intermittently injected to the vaporization section and the amount of the liquid source required for the one supply operation is controlled by the number of injection of the injecting operation" (emphasis added). Despite its asserted disclosures, Versteeg fails to teach or suggest such a feature.

According to the specification, a non-injecting period in which no liquid source is injected during one supply operation of the source gas to the substrate is formed. Therefore, during this period, a decreased temperature of the vaporization section can be restored, and it is possible to obtain an excellent advantage that deterioration of vaporization efficiency due to decreased temperature of the vaporization section is prevented. *See* specification. page 57 line 25 through page 58 line 7. Versteeg fails to disclose such an advantage.

Versteeg does not anticipate, and would not have rendered obvious claim 1. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**B. Gauthier**

The Office Action rejects claims 1-3, 5-7, and 9-11 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 6,132,515 to Gauthier et al. ("Gauthier"). By this Amendment, claims 2, 3, 6, and 7 are cancelled, thereby rendering their rejection moot. With respect to the remaining claims, Applicants respectfully traverse the rejection.

Without conceding the propriety of the rejections, independent claims 1 and 5 are amended to more clearly recite various novel features of the claimed invention, with particular attention to the Examiner's comments. Specifically, each of independent claims 1

and 5 is amended to clarify that "processing the substrate by alternately repeating the above steps for a plurality of times...an injecting amount per one injecting operation of the liquid source to the vaporization section is fixed to be smaller than an amount of the liquid source required for one supply operation of the source gas to the substrate, and the liquid source is controlled to be intermittently injected to the vaporization section and the amount of the liquid source required for the one supply operation is controlled by the number of injection of the injecting operation" (emphasis added). Despite its asserted disclosures, Gauthier fails to teach or suggest such a feature.

According to the specification, a non-injecting period in which no liquid source is injected during one supply operation of the source gas to the substrate is formed. Therefore, during this period, a decreased temperature of the vaporization section can be restored, and it is possible to obtain an excellent advantage that deterioration of vaporization efficiency due to decreased temperature of the vaporization section is prevented. *See* specification page 57 line 25 through page 58 line 7. Gauthier fails to disclose such an advantage.

Gauthier does not anticipate, and would not have rendered obvious claims 1 and 5. Claims 9-11 variously depend from claims 1 and 5 and, thus, also are not anticipated by and would not have been rendered obvious by Gauthier. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

### **III. Rejections Under 35 U.S.C. §103**

#### **A. Gauthier in view of Raaijamakers and Posa**

The Office Action rejects claims 4–8 under 35 U.S.C. §103(a) over Gauthier in view of U.S. Patent Application Publication No. 2001/0024387 to Raaijamakers et al. ("Raaijamakers"), in view of U.S. Patent No. 4,747,367 to Posa et al. ("Posa"). By this Amendment, claims 6 and 7 are cancelled, rendering their rejecting moot. As to the remaining claims, Applicants respectfully traverse the rejection.

For at least the reasons discussed above, Gauthier fails to teach each and every feature of independent claims 1 and 5. Notwithstanding their asserted disclosures, Raaijamakers and Posa fail to cure the deficiencies of Gauthier. Therefore, Gauthier, Raaijamakers, and Posa, considered either separately or in combination, fail to teach or suggest all of the features of independent claims 1 and 5.

Claims 1 and 5 would not have been rendered obvious by Gauthier, Raaijamakers, and Posa. Claims 4 and 8 various depend from claims 1 and 5 and, thus, also would not have been rendered obvious by Gauthier, Raaijamakers, and Posa. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

**IV. New Claims**

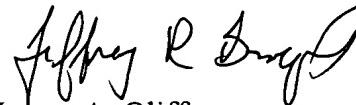
By this Amendment, new claims 12-14 are presented. New claims 12 and 14 depend from claim 1 and, thus, distinguish over the applied references for at least the reasons discussed above with respect to claim 1. New claim 13 is directed to "a method" having features similar to the features recited in claim 1. New claim 13 is believed to be patentable over the cited references. Prompt examination and allowance of new claims 12-14 are respectfully requested.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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